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HISTORY AND DESCRIPTION

—OF—

# THE LURAY CAVE,

(ILLUSTRATED.)

INCLUDING EXPLANATIONS OF THE MANNER OF ITS  
FORMATION, ITS PECULIAR GROWTHS, ITS  
GEOLOGY, CHEMISTRY, &c.; ALSO A

## MAP.

THE WHOLE SO ARRANGED AS TO SERVE AS A GUIDE.

—BY—

S. Z. AMMEN, A. M.

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THIRD EDITION.

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J. W. BORST & Co., PUBLISHERS  
BALTIMORE,  
1882.

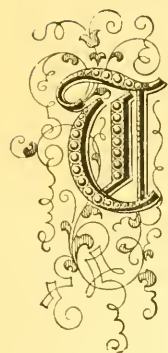
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# THE LURAY CAVE.

## ITS HISTORY AND SURROUNDINGS.



THE GREAT VALLEY OF VIRGINIA lies between two elevated ranges—the Blue Ridge on the south-east rising to heights of from 2,000 to 4,000 feet above tide-level, and the North Mountain range on the north-west almost equally high. It is not a continuous plain like some of the western prairies. On the contrary it is of varied surface, a land of hill and dale, well-watered, fertile, and abounding in every variety of mineral and agricultural wealth. Nor is it a single valley throughout. From a few miles south-west of Winchester to a point nearly opposite Harrisonburg it is divided into two subordinate valleys by the Massanutton Mountain—a long belt of ridges of silurian and devonian rocks which withstood the denuding agencies that cleared away on either side so many hundreds of square miles of strata. Both Valleys are proverbial for their beauty and famous for important historical events of which each has been the scene, but our present concern is with the eastern and narrower one, the Luray Valley. This constitutes Page County, of which Luray is the country seat. For the lover of the beautiful in nature it is endowed with innumerable charms. Hemmed in on every side with a rim of blue mountains, it is traversed in its western part by the South Branch of the Shenandoah, a beautiful river known in many a story of battle and guerilla adventure during the civil war. It was upon its banks at Front Royal, near its junction with the North Branch, that the first battle of Jackson's celebrated Valley campaign was fought. The Hawksbill, a winding and picturesque stream, flows through the

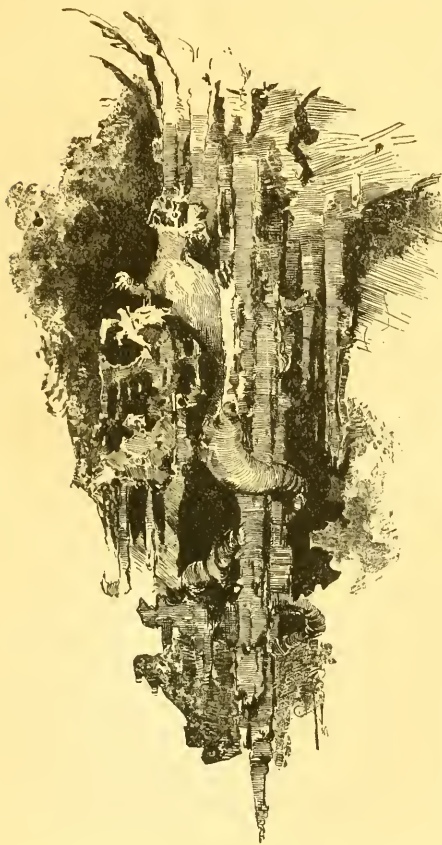
centre of the valley, alternating along its upper course with wild mountain cascades and bits of bosky dell, until at length, after watering miles of fertile meadow, it passes beneath the rustic bridge at Luray and loses itself in the Shenandoah. Nor is the village of Luray unknown to fame. It was through its streets that Stonewall Jackson passed in making his flank movement upon Banks at Strasburg in the spring of 1862. By this way, too, marched Gen. Shields a little later to intercept the wily Confederate in his retreat before Fremont. After the affair at Port Republic, Luray lay in the line of the Federal general's retreat. Again in July, 1863, Lee's army returning from Gettysburg to Eastern Virginia, and finding the lower passes of the Blue Ridge held by Meade's troops, came this far up the Valley to gain Thornton's Gap, and crossing here, once more confronted its old adversary. Then, as now, the village was famous for its pretty girls and abundant rations, to both of which soldiers are ever devoted, and it became in consequence the scene of many exploits of the partisan soldiery of Harry Gilmor, White, McNeil, and Mosby—gay fellows who knowing well the charms of the place were loth to yield possession.

About a mile west of Luray on the Newmarket pike is a conical hill known as Cave Hill from the existence of a cave near its summit. Along its sides and about its base are standing ponds, and sink-holes marked with a growth of briar and weeds, known to vagrant boys as the favorite haunts of rabbits. Their more important significance was not understood, however, until there appeared in the county a photographer, Mr. B. P. Stebbins, of Easton, Md., who induced several of the villagers to join him in the search for a cave which, from surface indications, he felt sure must exist in the neighborhood. His companions in this memorable cave hunt were Messrs. A. J. and Wm. B. Campbell. Together they went prospecting about the country, digging here and there at promising localities but without success, until, being nick-named "cave-hunters," they became the objects of good-natured ridicule from their fellow townsmen who charged them with mistaking rabbits' hiding places for mares' nests, and jumping rabbits for sprightly young colts.

At length on the 13th of August, 1878 a depression on the hill-side was examined which proved to be the entrance to the long-sought cave. It was about forty feet in diameter by ten in depth, filled with loose stones and brush, and grown up with weeds. Removing these obstructions with considerable labor they found an opening from



which a current of air was escaping. The opening was further widened and Mr. A. J. Campbell was lowered by means of a rope, and reaching bottom with candle in hand peered about him in the darkness. He found himself in a narrow rift about fifteen feet long by



THE DRAGON OF LURAY.

five wide, with no apparent outlet. Closer examination disclosed a hole through which with some difficulty he passed into a large open space now known as Entrance Hall—and became the discoverer of the cave. Having abandoned the rope which connected him with his companions, he surveyed for some time with rapt interest the strange scene presented to his eyes, until—the rest of the party becoming alarmed at his absence—his nephew Wm. B. Campbell came in search of him. Together they returned to the upper world, and the exploration ceased for the time. The importance of their discovery was appreciated, and at night the party returned with candles and explored Stebbins' Avenue, Entrance Hall and Entrance Avenue as far as Muddy Lake, since drained and replaced by a dry, cement walk.

The Lake—then a considerable body of water—stopped them, and of the largest and grandest part of the cave they remained in ignorance, until, on a venture, they had purchased the land under which it lay.

Since its opening the cave has been visited by many thousands\* of persons representing all parts of the world, many of them scientists and

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\*In the third year after it was opened the number of visitors exceeded 12,000.

foreign tourists acquainted with the caves of this and other countries. The general verdict is that the Luray Cave excels all others in the combined extent, variety, scientific interest, and beauty of its calcite formations. The Mammoth and Wyandotte caves are indeed larger, but their walls are almost bare. Weyer's is admittedly inferior in the freshness, variety and beauty of its cave scenery, as well as in extent. The recently discovered New Market cave falls far behind in size, richness of ornamentation, and ease of access. It lacks also the variety and abundance of formations to which the Luray Cave owes its preëminence. For the latter it may be claimed that it is the most beautiful cave in the world. "Comparing this great natural curiosity with others of the same class," says the report of a party sent out from the Smithsonian Institution, "it is safe to say that there is probably no other cave in the world more completely and profusely decorated with stalactitic and stalagmitic ornamentation than that of Luray."\*

Soon after its discovery the tract of land overlying the cave, which contained  $28\frac{1}{2}$  acres, was sold by order of the county court at auction, to close up a bankrupt estate, and Messrs. Stebbins, Campbell & Co., became the purchasers. The price paid was \$17 per acre, or double what the land had brought at a previous sale. It was considered by persons not in the secret a bad bargain, as the soil is light, consisting of a thin clay strewn with fragments of quartz, while the hill-side is disfigured with sink-holes and masses of lower silurian limestone projecting in horizontal strata from the surface. A few days later, however, the town was electrified by the announcement of the discovery of a wonderful cave. The commotion was immense, and when the value of the property with which they had parted became known, the relatives of the original owner instituted suit for its recovery. The decision of the local court was in favor of Stebbins, Campbell & Co., but the case was carried to the State Court of Appeals, and there, in the spring of 1881,

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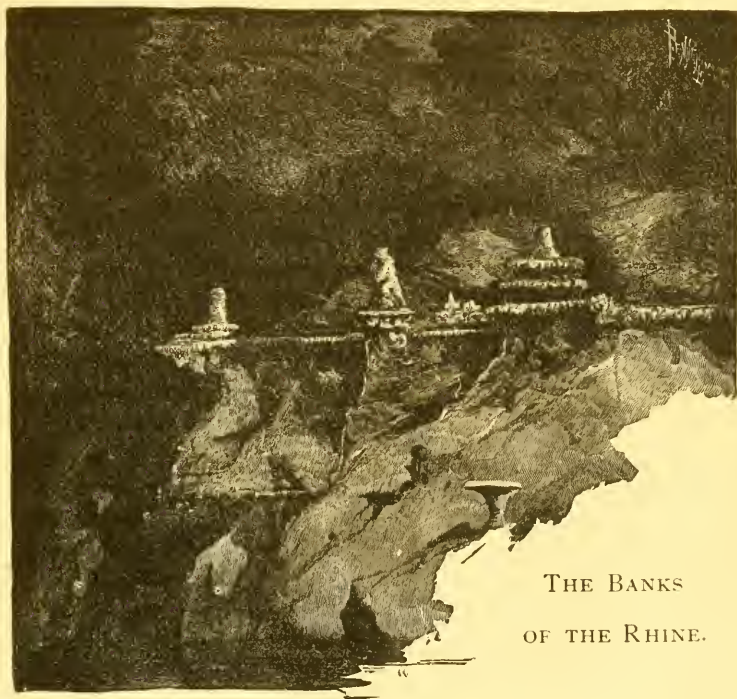
\*See Scribner's Monthly, April and Oct., 1880, and "The Century," Jan. 1882.

"The Century" speaks "of the ornamental formations of crystalline rock, which render this cave without a peer in the world, perhaps, for the startling beauty and astonishing variety of its interior."

The Philadelphia Sunday *Republic* asks you to "think over every beautiful and pleasant sight your eyes have rested upon; recall all the weird fancies and grotesque dreams your imagination has conjured up, and then visit the Luray Cave, and find all these sink into insignificance before the beauties, marvels and spectacular effects that will there dawn upon your astonished gaze."



decided in favor of the plaintiffs. The case had scarcely been decided when the Luray Cave and Hotel Company, related in interest to the Shenandoah Valley Railroad Company, purchased the cave for \$40,000. Other bodies of land adjoining have since been added to the original tract until property exceeding the whole area overlying the cave, and several times the extent of the original 'cave tract,' now belongs to the same owners. Ample ex-



THE BANKS  
OF THE RHINE.

penditure has been made by its new owners to improve their valuable purchase. A handsome cottage of two stories has been built over the mouth of the cave, and in the interior cement walks, plank platforms, stairways, and railings have been provided wherever needed, so that at present the visitor can spend hours wandering underground without wetting his feet or incurring risk of a fall. The tallow candles formerly employed to illuminate the cave were replaced on the 20th September, 1881, with thirteen electric lamps operated by a dynamo

(Thomson-Houston system) at the railway station. This is the first instance on record in which a cave has been lighted by electricity. It is supposed to be the first instance of a current traversing so great a circuit, its length being nearly seven miles. Additional light is furnished for out-of-the-way nooks by the use of lamps carried in the hand. Guides—among them Mr. A. J. Campbell, the first person to enter the cave—are in waiting to attend the visitor, and no charge is made for either lights or guides. Carriages await the arrival of every train to carry intending explorers to the Cave which is distant about one mile from the station.\* No change of dress is needed, as some suppose, on entering the realm of Stalacta. There is little or no dripping water where the visitor will care to go, and the walks, as said before, are made dry and safe by artificial means. It may not be amiss to add that the laws of Virginia impose a fine of from five to five hundred dollars for defacing or despoiling private property, and the guides have positive orders to arrest every person known to have broken off or carried away specimens. The law has occasionally been violated and fines have been imposed by the local magistracy who feel a strong interest in keeping the cave formations intact.

The Luray Inn, built by the Luray Cave and Hotel Company in Queen Anne style, is near the railroad station, and serves either as a temporary stopping place for hurried visitors to the cave, or as a resort for persons wishing a healthy and romantic spot in which to spend the summer. The Inn has fifty-four sleeping rooms, all provided with gas and electric bells. Hot and cold water baths and other comforts or necessities are liberally supplied. There is a tower crowning the Inn from which may be obtained a fine view of the glorious scenery of the Hawksbill valley. One sun-set scene from this point is worth a trip across the Atlantic. That this is the case may be inferred from a letter written by a gentleman spending his summer here. In reply to a question as to his resources for enjoyment, he thus expressed himself:

“To lie on a grassy hill-side and watch the sun setting behind the Massanutton; to see the thousand purplish tints that sleep within its winding valleys and glens, while the heavens above are glowing with splendors of pink, and red, and gold, amber, faintish-blue and green;

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\*Round-trip tickets good for the ride to the Cave in the cave hacks, are sold at the station. Round-trip tickets, good for carriages, are also sold.

All railroads sell tickets with coupons attached allowing the traveler to stop over at Luray one day.

to hear the cries and calls of eventide, the shouts of the workmen coming home, and the multitudinous noises of the farm house at the close of the day,—these are no small pleasures. There are cherry-trees to climb, berries to gather, ferns to collect, a cave to explore, fish to catch, and long walks to take in the deep forest, or by the river-side, or down some rustic, vine-bordered lane. To sit on the farm-house porch and see the corn growing, and listen to the busy threshing machines buzzing fitfully far away across the hot fields throughout the idle, dreamy day—unhappy the man that cannot find a certain charm in these things. They wake a dim echo in our souls of the rustic lives of our ancestors. We find in them the pabulum of our highest emotions, inspiration for better living, and nobler thinking. City life fires, deadens, exhausts. We become one-sided, evil, set in bad habits, which the necessities of country life effectually break up. We return to town in the autumn with increased physical, mental and moral strength to renew and accomplish the tasks of life.”

Luray is a good central point from which the historiographer may visit the numerous battlefields of the Valley and Piedmont region of Virginia. Within a few miles are Kernstown, Front Royal, Winchester, Strasburg, New Market, Cedar Creek, Cross Keys and Port Republic. Charlestown, the scene of John Brown's trial and execution is in easy reach. There are several interesting mounds, built perhaps by the famous mound-builders, within two or three miles of Luray. For several years representatives of the Smithsonian Institution have been engaged in examining them.

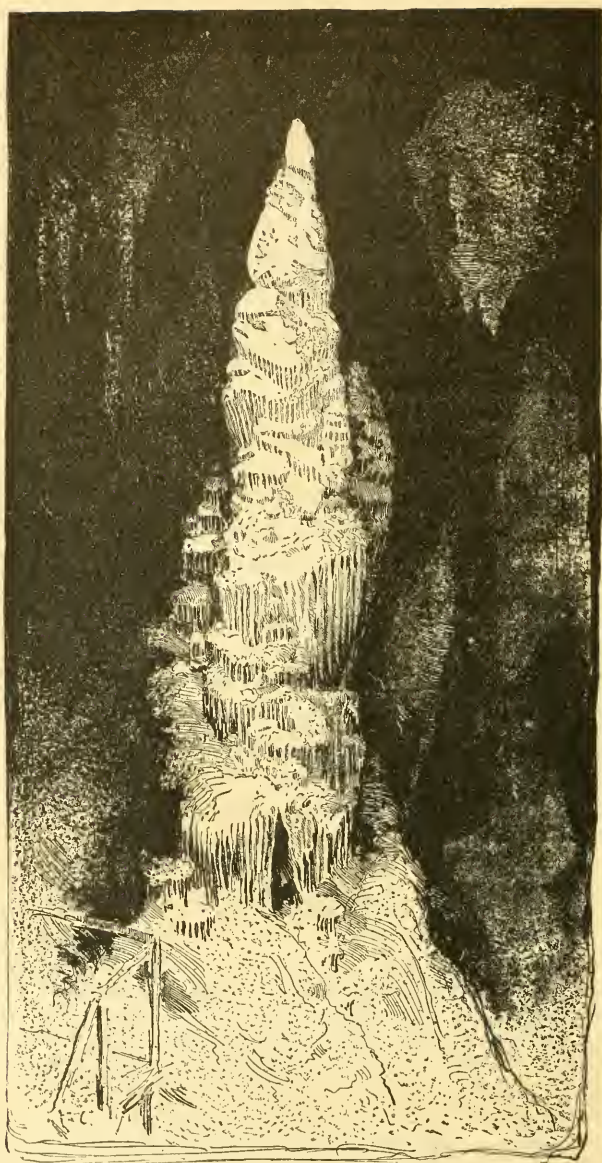
Luray is within easy reach of Raleigh, Capon and Jordan White Sulphur Springs, and is on the direct line from northern cities to the famous Greenbrier White Sulphur, Old Sweet, Red Sweet, Warm Springs, and other prominent Virginia Watering places.

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## A CHAPTER OF EXPLANATION.

*Scopulis pendentibus antrum :  
Intus aquae dulces, vivoque sedilia saxo.*

Geologically, the limestone (dolomite) in which the cave is found, is to be assigned to the “Canadian” or Middle Period of the Lower Silurian, and to the “Quebec,” the Middle Epoch of that period—to No. II., b., of Rogers' series.



EMPRESS COLUMN (Giants' Hall).



The stratum\* of argillaceous limestone constituting Cave Hill may be considered identical with that in which occurs the famous Natural Bridge of Rockbridge County, near Glenwood Station, Shenandoah Valley R. R., further up the valley. Such is the opinion of Prof. John Campbell, of Washington and Lee University, who has made a minute study of this region, and is recognized as the highest living authority upon the geology of the Valley of Virginia.

Large caves are found only in limestone regions. Those who give the subject special study agree that a cave is but an underground valley—a ravine roofed with stone—a repetition on a small scale and under a stony sky, of the main features of limestone scenery above ground. This view is well sustained by the structure of the Luray Cave. It is a system of large ravines, of which (1) Entrance and Stonewall Avenue, (2) Pluto's Chasm, and (3) Giants' Hall and its dependencies, are the dominating lines. It is one thing, however, to have subterranean ravines, and quite another to have them richly decorated with beautiful formations. The former are common the world over; the latter are rare by reason of the many conditions to be fulfilled. The hill in which the cave is situated is the highest in the vicinity, and the cave is near its summit. The strata are horizontal, compact, homogeneous, and almost water-tight. Had the Cave Hill been subject to the rain torrents flowing from higher hills and had its strata been inclined, water would have flowed through any chance opening too fast to have produced effects other than those due to mere erosion. As it is, the water which enters the cave seems to exude from the very stone itself, as if it had under pressure traversed the whole thickness of limestone overhead.

Caves result from the chemical fact that the carbonates of lime and magnesia are soluble in water containing carbonic acid. This acid abounds in atmospheric air and is one of the products of the decomposition of animal and vegetable matters, so that rain water which has percolated through the soil has usually been enriched with it from both sources. With carbonic acid, then, as the active agent and water as the carrier we are able to account for the disappearance of strata however thick, and whether above or below ground. Above ground the result is a lowering of the general level, the deposition of a residual stratum of clay (a constituent in a finely divided condition, of the Valley limestone), and the formation of valleys where special

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\*Prof. Campbell considers this stratum much older than the Trenton strata, a well-marked epoch intervening.



CATHEDRAL AND HALL OF GIANTS.



causes have favored the disintegration of the stone. "Hard" water flows away, and a clay soil is left behind. Below ground, on the other hand, the result is a cave—if there be a fissure in the strata through which the acidified water may make its descent. In the course of time this fissure is worn larger, and the entering water dissolves and bears away with it bit by bit the stratum through which it passes, flowing out at some lower level with its burden of lime and magnesia, but leaving the clay behind to plague the adventurous cave-hunter. A cave therefore is a fissure widened by the combined action of carbonic acid and water.

So much for the solution and removal of strata. It remains to account for the new formations, which, under the names stalactite, stalagmite, drapery, etc., are peculiar to cave scenery. Some caves have them; some have not. They demand certain conditions of comparative dryness and ventilation which are seldom realized. The chemist knows that water holding lime in solution by virtue of the carbonic acid it contains will deposit the lime when the acid escapes. It is obvious, moreover, that when water containing dissolved lime and magnesia is evaporated by a passing current of air, the solid matter will be left behind, and crystals small or large be formed, according as the evaporation is rapid or slow. The formation of a limestone coating at the bottom of a kettle in which "hard water" has been boiled is an analogous phenomenon.

FORMATIONS.—Cave formations when new are white from the predominance in their composition of lime and magnesia. In the course of time, however, much of the soluble matter of their surface is removed by the ever-present carbonic acid and moisture gathered from the cave atmosphere, and the residual clay and iron oxide accumulating on their exterior give it a darker color.

The formations at Luray are to be referred to the following types:

1. *Stalactite*.—It begins from a drop suspended from the ceiling. The carbonic acid escaping and the water evaporating, the drop becomes more concentrated at the surface than at the pendent centre, and deposits the solid matter it contains as a ring of tiny crystals. This ring now becomes the support of the drop, and the process continues until a tube of the diameter of the drop and from one to thirty-six inches in length is formed. Before reaching this length, however, it begins commonly to fill up, and the water now trickling exteriorly deposits its solid matter and enlarges it. Stone cloth, "curtains," "swords," "draperies," etc., are its varieties. Hanging from the

under surface of a jutting ledge, a stalactite receives its supply of stone-forming water on one side only and grows only on that side. Thus from being a round body it becomes a flat one. Extending horizontally as it broadens, it must chance to intersect the line of growth of similar adjacent formations, and where they meet there is a blending of substance and the semblance of a fold. Stripes of various tints of red results from varying proportions of carbonate of iron in the water which trickles down the growing edge. The stalactite assumes a thousand forms, and one of the chief pleasures of the visitor is to study and account for its wonderful vagaries.



THE FROZEN GEYSER (Pluto's Chasm).

2. *Stalagmite*.—Meanwhile a growth has been taking place below from the drops which have fallen upon the floor and there evaporated. The result is a solid column much larger than its corresponding stalactite. Stalactite and stalagmite often meet in mid-air to form a pillar extending from floor to ceiling.

3. *Helictite*.—The Luray Cave produces a new and peculiar formation, neither stalactite nor stalagmite, for which is proposed the name *helictite* (Greek *helisso*, to bend or twist,) to indicate the contorted or

broken line of growth which it affects. The helictite abandons the vertical line. It prefers to extend horizontally from one to three inches, until it can be free to move in any direction. It then often grows upward, seldom downward.

This eccentric formation is due to a slow crystallization taking place on a surface barely moist, from material conveyed to the point of growth by a capillary movement. The polar forces concerned in crystallization by a happy chance continually getting the better of gravitation, it departs from the vertical line to which cave growths are usually restricted.

4. *Calcite Crystals* are deposited in still water. They are abundant in the cave, forming the sides and bottom of its numerous "springs" and lakes, but should be distinguished from others found protruding from the blue limestone of the ceiling, the latter having been formed therein long before the period of the cave.

5. *Cave Pearls* are formed about pebbly *nuclei* in water agitated by falling drops. *Botryoids* result when adjacent masses of stone are besprinkled with fine spray. These grape-like bodies are fixed, and when old resemble "*vegetable growths*," but are smaller and have a different origin. The latter are found on old stalagmites disintegrating in a moist atmosphere. *Cascades* lie between stalactites and stalagmites, being formed when water trickles over an inclined plane of broad surface. No gypsum formations occur in the Luray Cave.

AGE—It is impossible to estimate correctly the age of the cave, or of its formations. The cave is of course more recent than the hill in which it is formed—is later than the adjacent valleys and streams into which it drains. The rate of growth of cave formations varies with a score of circumstances, so that no generally applicable rule can be deduced. The writer has seen a tumbler which after standing five years under the drip of a stalactite was encrusted to a depth of one-eighth of an inch. At this rate of growth, supposing all the conditions to be exceptionally favorable, a column one foot in diameter might be formed in two hundred and forty years. Under ordinary circumstances however, it would perhaps require several thousands some reckoners say tens of thousands of years. Others go further. Dr. Porter, of Lafayette College, a distinguished scientist, in a recent lecture, quotes an eminent brother scientist as saying, concerning the Fallen Column, a gigantic formation weighing one hundred and



SENTINEL AND SPECTRE (Pluto's Chasm).



seventy tons, that "four thousand years must have passed since its fall, and seven millions of years were consumed in its formation." This calculation is based upon the probable time which, in his opinion, it took to grow the vertical stalactites which have formed upon it as it lies. Prof. Collins, of New York city (of the "Jeannette" Polar Expedition), who visited the cave and looked at this column, declared all his preconceived ideas of time stranded. "I am not familiar," said he, "with the hypothesis upon which the calculations are based, but when the *savans* assert that it required seven millions of years to give this fallen column its present diameter, I feel like 'putting off my shoes' and standing on this sloppy stone, for it certainly must be 'holy ground.'"

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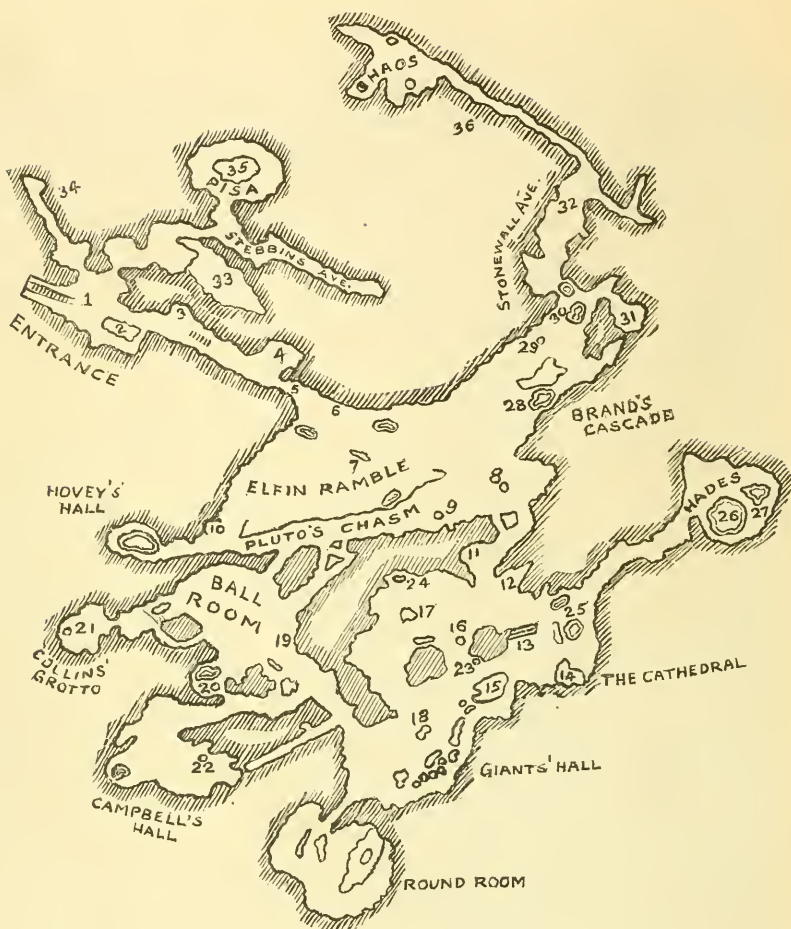
### THE DESCENT.

"In Xanadu did Kubla Khan  
A stately pleasure-dome decree,  
Where Alph, the sacred river, ran  
Through caverns, measureless to man,  
Down to a sunless sea."

A house has been built over the entrance for the convenience of visitors.\* Within the cave are plank and cement walks, bridges, stairways, railings, etc., in all those parts at present open to the general visitor, so that no special preparation is needed except such as is suggested by the mention of the fact that the temperature of the cave atmosphere ranges from 54 to 58 degrees. The thirteen electric lights suspended at important points relieve the visitor of the trouble of being his own torch-bearer. Still, if desired, the guide provides each person with a reflector armed with several candles. At the word "Ready!" we take our places in single file, and following the guide observe in descending the stairway that the thickness of the horizontal stratum of blue limestone constituting the roof of the cave is about thirty-five feet. A door is opened and we are met by an outward draft of cool fresh air. Advancing further we find ourselves in Entrance Hall, the vestibule of the realms of Stalacta. Our first emotion at the abrupt change from the freedom of outside nature is one of mute wonder, until the mind accustoms itself to the monstrous shapes, the silence, and the weird influence of this subterranean world.

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\* To enter the cave the visitor descends a stairway within the house, precisely as if he were going down into a cellar. The Map shows his subsequent course.



MAP OF THE CAVE.

1. Entrance Hall.—2. Washington's Column.—3. Flower Garden.—4. Theatre.—5. Natural Bridge over Muddy Lake.—6. The Fish Market.—7. The Crystal Spring.—8. Proserpine's Column.—9. The Spectre.—10. The Balcony.—11. Oberon's Grotto.—12. Titania's Veil.—13. Saracen's Tent and Fallen Column.—14. The Organ and Throne.—15. The Tower of Babel.—16. The Empress Column.—17. Hall of Eblis.—18. Henry-Baird (or Double) Column.—19. The Chalcedony Cascade.—20. Cascade Spring.—21. The Dragon, in Collins' Grotto.—22. Mermaid or Scaly Column.—23. The Queen's Scarf.—24. The Wet Blanket.—25. Chapman's Lake.—26. Lake Lee.—27. Castles on the Rhine and Lake Lethe.—28. The Imperial Spring.—29. The Skeleton.—30. The Twin Lakes.—31. The Engine Room.—32. Dr. Miller's Room.—33. Hawes' Room.—34. Specimen Avenue.—35. The Leaning Tower.—36. Proposed Exit Avenue.



Our feeling is that we have entered a new state of being. Queer shapes present themselves at every turn, aping grotesquely the things of our past experience. Every object suggests some growth of animal or vegetable life, yet every resemblance proves illusive. Before us are glittering stalactites and fluted columns strong enough to bear a world; draperies in broad folds and a thousand tints; cascades of snow-white stone; and, beyond, a background of pitchy darkness in which the imagination locates more than the eye can see. The mind "dodges with belief." Fancy is dazed by the incomprehensible stimulus it receives from a multitude of novel forms. Around us is a silence that speaks. To what does it testify—the infinite inventive-ness of chance? Not so. We see the mechanic spirits of this underworld, gnomes and imps, who dart from shadow to shadow, behind column and angle, to watch that we do no harm to their marvelous handiwork. Awe and reverence possess us. We are in a place, where, all for all, nothing has its fellow in the world above, and where everything is sacred and inviolable.

Let us examine objects more closely under the glow of the overhanging electric light. First to attract attention is Washington's Column, a fluted, massive stalagmite about twenty feet in diameter by thirty in height, reaching from floor to ceiling. Stalactites depend on every side. From the centre of the roof one descends as aptly as if nature had designed it to support a chandelier. At other points we observe, in irregular masses, bunches of minute crystals of silica\* browned with clay, of a spongy texture, formed ages ago by infiltration into the mazy crevices of the limestone. Their matrix has been dissolved away, and they now attract attention by their close resemblance to the coarser sorts of sponge.

Three avenues radiate from Entrance Hall. We enter Entrance Avenue, and pass on our left a rounded bank of dripstone fringed beneath with semblances of dangling legs, the whole suggesting a turtle or fossil glyptodon. Further on, upon the same side, we reach the Flower Garden, a space inclosed with a natural stalagmitic border and containing bulb-shaped stalagmites resembling vegetal forms, bunches of asparagus, cauliflower, cabbages, &c.—according to one's fancy. Their formation is due to a mingled process of decay and growth, solution and recrystallization.

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\*Fine large crystals of quartz an inch or two in length are sometimes found projecting from the limestone ceiling.

We now descend a stairway to the level of Muddy Lake. In doing so we see on the rounded face of the rock five parallel lines—scratches of a bear's paw, as our guide avers. We are in the Theatre; along our left is the Gallery. Happily, Muddy Lake has been filled and a cement walk put down. From this point looking forward toward the



FISH MARKET.

Fish Market one sees splendid effects from the electric light, streaming through the natural arch which spans the Lake, and reflected, in tints of silver and gold, from the formations new and old disclosed by its rays. It recalls and amplifies the thought of the sage Ulysses, where, in Tennyson's poem, he speaks of—

"An arch wherethrough  
Gleams that untravell'd world whose margin fades  
Forever and forever when I move."

We pass on beneath the arch spanning the site of the Lake to the Fish Market. At the end of the cement walk we see hanging upon our left the fish in a row, black bass and silver perch done up in bunches—rock-fish, according to the terms of our guide's ancient joke. The semblance is perfect. We recognize their bluish backs, whitish bellies and forked tails, while, to increase the illusion, the trickling water gives them the moist glossy coating of a catch fresh from the sea.\*

Turning to the right and mounting a flight of steps, we are in the Elfin Ramble, a vast open plateau, estimated to be 500 feet in length by 300 in breadth. The ceiling is a horizontal stratum of the original blue limestone, from which the distance to the floor varies from one to sixteen feet. Beneath us is a bed of dry clay, the remains of a former stratum from which the carbonates have been removed, as already explained. The lime has been but partially removed, however; much is still left as a chalky, whitish, pulverulent mass crumbling easily under the pressure of the fingers. The theory has been advanced that the clay here has been introduced by violent currents of water, flooding the cave and bringing in *debris* from the surface. But this is impossible, as the cave is near the summit of a hill. Moreover, the absence of the flint and quartz so abundant on the surface above is conclusive against any theory of violent mechanical action. There has been no cataclysm. The processes by which the cave was formed are all going on still at the present time.

We see beyond the plateau another electric light chasing the shadows from our path. We make it our objective point, and going straight across Elfin Ramble we reach Pluto's Chasm, the rift through which the god is supposed to have borne Proserpine to the underworld. It yawns at our feet in a startling way, attaining a depth of seventy-five feet and a length of five hundred. Facing us is a wall of glistening stalactites. At the bottom of the Chasm, some distance to our left, is the Spectre, a tall, white, fluted stalactite bedecked, about its upper part with a fringe of snowy draperies. It is not difficult to see in it a meditative ghôst, muffled in white, like the traditional spectre of the drama. In the same quarter, but far away, we dimly perceive Proserpine's Column, of which more by and by. In walking

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\*"One has no difficulty," says the Smithsonian Report, "about the identification of the species of bass, perch, shad, mackerel, etc., some being gray all over, others having black backs and white bellies."

toward it along the chasm we come upon the Mirror Lake, a small pool whose calm clear waters are almost hid by a superficial growth of stone. Owing to the absence of animalcular life all the waters of the cave are limpid and bright, though containing much lime carbonate in solution.

Returning now along the dizzy edge of the Chasm toward its other extremity we come, first, to a flight of steps inviting us to descend afterward, and further on, to the Balcony. Descending we find in Hovey's Hall\* some admirable formations, among which may be mentioned a cluster of branching corals, resonant draperies, called the "Swords of the Titans," and a group of statuary—Hagar gazing pensively at her famished child Ishmael. Returning to the Balcony, we find it to be a space enclosed by a cluster of columns overlooking the Chasm. It contains some stalactitic draperies which, for beauty of coloring, translucency and symmetrical folding, are with difficulty excelled by anything else of the kind in the Cave. "They are sixteen alabaster scarfs, side by side, of exquisite color and texture. Three are snow-white; thirteen like agate are striated with rich bands of every imaginable shade of brown, and all are translucent. The shape of each is that of one wing of a narrow lambrequin, one edge being straight, the other meeting it by an undulating curve. The stripes follow the curve in every detail. Down the edge of each piece of drapery trickles a tiny rill, glittering like silver in the lamp-light. This is the ever-plying shuttle that weaves the fairy fabric."

The most curious, if not the prettiest formation in the Balcony is a small stone hand, with fingers distinct, growing out horizontally from one of the scarfs. What is so curious about it is not its flesh-like color, nor yet its resemblance to a cunning little baby hand, but the fact that its growth is horizontal and without support—violating thus the law of gravitation in a most puzzling manner. Such growths are rather abundant throughout the cave, but few are so pretty. Not only do these twig-like projections make out horizontally from perpendicular surfaces, but they also incline upwards at all angles. Not unfrequently the twig, or helictite, grows directly upward, and that too in situations where stalagmitic growth is plainly impossible.

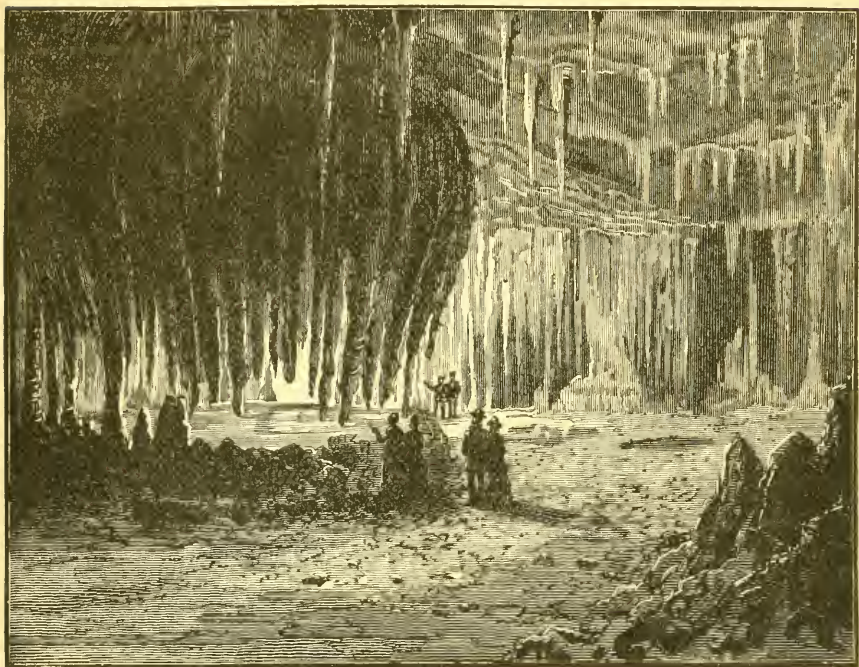
Going back to the stair at the Fish Market we there turn to the right, and, after proceeding a few yards across Elfin Ramble, step aside from the main course to the right to examine the Crystal Spring.

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\*Often called Pluto's Extension.



It is so named from the bright crystals of lime carbonate forming at its bottom and sides, and also, perhaps, from the sparkling quality of the water "clear as crystal" which fills it to the brim. It has lifted its bed several feet from the original floor and some fifteen inches above the present one, and is contained within walls of its own formation—walls crystallized from its own limpid waters. A fringe of stalactites, reaching from the ceiling to the rim of the lake, incloses it on every side, as if to prevent intrusion. Yet few can resist the temptation to drink of the pellucid nectar.



THE VIRGIN FONT.

Near by, and connected with the Crystal Lake, are several others apt to be overlooked because almost concealed by a thin coating of stone encrusting their surfaces. They are indeed but one lake; a disturbance in one troubles the water of the others. Their crystal bottoms sparkle beautifully in the light of our lamps.

Regaining the main route the guide now conducts us to that part of Skeleton Gorge where lie imbedded in drip-stone, at the foot of an

ugly precipice, the (real) bones of a man\*—unhappy not to have possessed a copy of this book when he entered upon his explorations. Descending by a stairway we are brought face to face with the object of our search—the skeleton. Only a few of the larger bones of the leg, part of the skull, and a few vertebræ, remain in sight; and these are held firmly in the grip of the stone which has formed over the rest. There has been much dispute between the romantic and the practical over the sex of the unfortunate deceased, the former averring that she was an Indian maiden who, crossed in love, came here to find congenial gloom in which to indulge her reveries. Her neglected torch burning out, she got lost in the darkness and intricacies of the cave, and wandering about stumbled over the edge of the precipice and perished. The place is cold, wet, dark and dismal, and eminently suited for the close of a tragedy.

Competent anatomists, however, assert that the bones are those of a boy, or small man, probably an Indian. Near one of the large rooms the print of a foot encased in a moccasin has been found. At other points the remains of wolves, deer and bears are traced, and the tracks of rabbits, raccoons and rats are abundant.

Leaving the skeleton we return to the Elfin Ramble plateau, and following the guide visit next Brand's Cascade and the Imperial Spring. The Cascade is of flowing snow-white stone, rendered gloriously effulgent by the electric light suspended near. The Spring is a fine body of water richly enclosed in a forest of columns. It is arched above with myriads of stalactites reflected with most beautiful effect in the smooth waters of the Spring, until it is impossible to distinguish the upward from the downward growths of pearly stone. Near at hand is the Ladies' Toilet Table, whose mysteries it is improper for ruder eyes to explore.

Retracing our steps for a short distance to regain the main route we now make for Giants' Hall. Striking across the Ramble we reach a bridge over the upper end of Pluto's Chasm, and find ourselves hard by Proserpine's Column. Looking down the ravine we again catch sight of the distant Spectre.

Further on, and aside from the main route, is an opening in the blue limestone, a rift not many feet wide or high, but rich in varied

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\*Prof. Joseph Leidy of Philadelphia and Dr. Elmer R. Reynolds of the Smithsonian Institution have both visited the skeleton imbedded in the rock and say—"There can be no question as to its being human."



draperies and fine white stalactites. We clamber over blunt stalagmitic stumps to inspect the Grotto of Oberon, a space enclosed by white columns and containing a pellucid pool. Here is the new Bridal Chamber, and near by one sees the flattened stalactite's mode of growth illustrated by formations hanging from a ledge of stone.

Passing beneath a low broad arch we have our attention called to a piece of drapery, a shawl,\* perhaps, formed of translucent stone. It hangs in graceful folds, and when the guide holds his lamp behind it the transmitted light reveals beautiful red stripes that follow every curve of the winding border. Near this point, on the right, was found the impression of a moccasined foot.

GIANTS' HALL.—We now emerge upon the side of a vast space embracing several large apartments to which the collective name Giants' Hall has been aptly given. The ceiling and farther side would be lost in the distance, but for the splendors of the electric lamp. Giant sentinel forms loom on every hand. Turning to the left, we advance and catch sight successively of Titania's Veil, a marvel of beauty, and the Snow Bank, the latter a broad white stream of stone. Further on, but this time upon the right, we discover a most beautiful stalagmite, the famous Frozen Fountain, attracting every eye with the brilliancy of its silvery glow, which beggars description. The pure white drapery hanging over this charming object is scarcely less handsome than the Fountain itself. The little lake near by is called Diana's Bath.

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\*The "Tinted Shawl," whereby hangs a tale. On an "excursion day" not long since the guide noticed that two inches of this formation had been broken off. He detected the offender, who was fined by the local magistrate. A few weeks later on another excursion day it was noticed that the broken piece, which had been skilfully fastened in its place by fine wire, was broken off a second time. Suspecting his man, the guide clapped his hand on the pocket of the new offender, and found the piece, which was again the occasion of a fine. The fragment has been again put in place—it is hoped, to stay.

The owners of the property with commendable sentiment have earnestly invited the co-operation of the public to protect the cave from defacement and mutilation. They have constantly sought to induce a proper recognition of the respect and awe that should be inspired by contemplating the wonderful productions of nature's workshop here visible.

The Saracen's Tent is upon our right. It is a large circular space enclosed by long yellow draperies depending from a ceiling some forty feet above the observer's head. From the outside it is strikingly suggestive of an oriental pavilion. The Tent affords a fine view of all that part of upper Giants' Hall which goes under the name of The Cathedral, or Organ Room, and of part of the lower Hall.

Let us enter this titanic tent. Below and stretching far away to the right is an immense chasm, high and broad, and remarkable for the great size of its formations. The lofty ceiling is scarred with the wounds of huge stalactites broken off by their own weight and fallen to the floor. Most of these have disappeared, being disintegrated by the acid water about them. Two remain. One, the organ, a mass of dripstone with long sonorous stalactites still attached, upon which a tune may be played. The other is the Fallen Column, a fragment of its former self, but still a monster twelve feet in diameter by twenty in length, and of an age estimated by some scientists at millions of years.

One who wishes to surrender himself to the emotions inspired by the place, will allow the rest of the company to precede him, while he remains to keep solitary vigil. In solitude and silence, undistracted by reminders of the outer world, the mind acquires the power of seeing the invisible. The spirits of the underworld gain confidence to approach and whisper their incommunicable secret, and what we had supposed was the monotone of falling drops of water becomes the intelligible voice of the gnome who has shaped the fantastic world around us. The eye gains a keener sight. The imps and goblins who love to lurk in shadows start forth to view in grotesque shapes.

The electric light, flaring and sputtering, as if impatient at being brought down from its skyey home to this subterranean world, here exhibits its remarkable power to bring out clearly distant objects. It heightens the contrasts of light and shade upon which cave scenery so much depends for its striking character. Under its glow the whiter formations shine with the lustre of pearl, while the amber tints of the older and darker ones

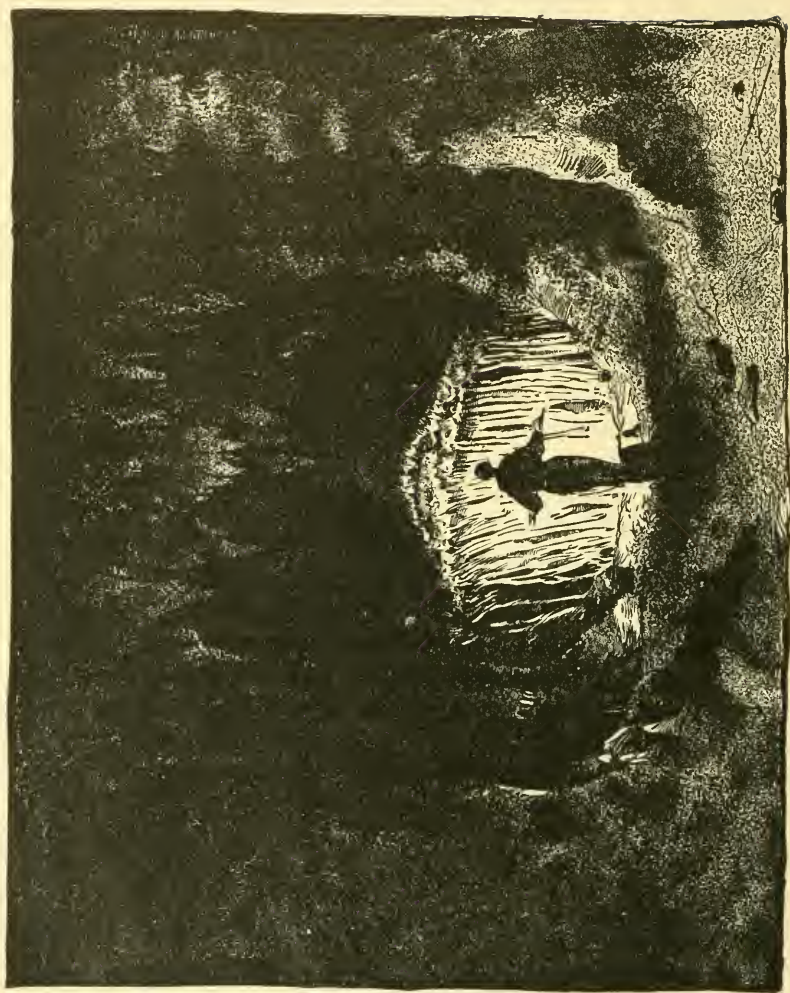
are changed for the color of gold. The weird and splendid effects of the spectacular drama no longer seem exaggerated.\* But epithets cease to describe. Language framed to the needs of the upper world fails us here, where faces, forms, and tints, as well as the emotions they suggest, are all strange to us. We realize at length that the true charm of the place is nameless. That it lies in no one of its qualities but in all—in its silence, its immensity, its mystery, its splendor, its beauty—in the effect of an *entourage* altogether novel.

We leave the Tent to continue our exploration, and come upon the Fallen Column which seems to bar our way into the Cathedral. Inspecting the material of the Column we find some portions of its exterior at an advanced stage of decay. A pen-knife blade is easily thrust in to the handle, and our finger-nail abrades it. Thus large draperies are often found worn to tatters. Out of their material new formations are made, and the gorgeous furniture of the cave is always undergoing change and repair. The Fallen Column also affords facilities, for examining a fungus (*mucor stalactitis*) said to be peculiar to the Luray Cave. In its most common form it consists of a slender stem about one-eighth of an inch in length, bedecked at its projecting extremity with a bright globule of water, and having from one to three other such globules distributed along its length. Under the microscope each globule is seen to have for its nucleus a tiny bulb containing its spores. Slender filaments trail about the bulbs and hang in graceful curves to the ground. It is a beautiful object when seen fresh from its habitat.

Passing beneath the Fallen Column and beyond the snow-white Angel's Wing, we approach the Organ, and rapping its pipes with a pencil find that they give out notes of several octaves. Further on, over a slight elevation, we enter the Throne Room. The Throne is a niche in the wall on the right. Here, too, is Chapman's Lake, so named from an enthusiastic visitor who advancing, head up, candle elevated, examining the ceiling,

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\*One who has visited the cave when illuminated by candles finds on entering it again under the electric light that its beauty is increased ten-fold.



THE ORGAN (Cathedral).

suddenly plunged waist deep into this pool of icy water, extinguishing at once both candle and enthusiasm. From this point has been opened the way to the wonderful region of Hades, with its beautiful waters, Lake Lethe, and Lake Lee but we shall defer our visit to it until toward the close of our explorations.

HADES.—There is perhaps no more attractive region of this underworld than that portion of it, which, from its beautiful lakes brimming with limpid quiet waters suggestive of the calm of the world of spirits, has received the name of Hades. While it may be fairly considered the vestibule of a better world, the visitor will be reminded, however, by his guide that it is in close connection with Tartarus, to which at various points there are evident openings to be avoided by the wicked.

Passing from the Throne Room into a narrow rift in the solid rock, after a number of bewildering turns and windings, we enter the labyrinthine mazes of Hades. The first object to attract our attention is Lake Lee.\* It is the largest body of water in the cave and one of the prettiest. Calm, clear, still, it reflects in a wonderful manner the many stalactitic beauties that surround it. A beautiful white column rises from its edge to the ceiling. Within a few feet is the bed of an old lake, now empty and dry, whose sides terraced at different levels display every stage and incident of lake-growth. The curious tower-like stalagmites along its border, suggestive of Castles, have secured for the lake the name of the River Rhine. The visitor must not fail to see the Chinese Devotee. Adjacent to it and still more interesting is Lake Lethe, a body of water contained within raised banks of its own construction, and containing within its waters many novel growths resembling mushrooms in stone, exceedingly curious to the student of cave history. It has justified its name. A gentleman who, wandering here alone, took a drink of its limpid crystal, forgot his way out, and after many futile attempts to thread the mazes of Hades—each turn of which brought him back to Lake Lethe—was rescued by the guide after his candle had burned down to the last inch.

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\*Better known as Broaddus Lake.



There are numerous rooms opening out from Lake Lethe which are particularly rich in helictites, and in stalactites of queer shape. A matter of interest in this locality is an abyss to which no bottom has yet been found. Mr. A. J. Campbell was once



LAKE LEE (Hades).

let down into it a distance of seventy-five feet, but without finding its lower limits. The visitor should observe caution in his movements, as he may be lost in the little-known windings of this part of the cave. The peculiar merit of Hades is its series of wonderful lakes, and the facilities it affords for observing the growth of formations submerged in water.



Retracing our steps to the lower end of the room containing the Organ, we find ourselves face to face with a perpendicular barrier of massive stalactites. Taking the opening next the wall we reach presently upon our left the Tower of Babel, a fanciful name for an exceedingly broad and massive stalagmite, whose surface, fluted with successive courses of minor stalactites, suggests the idea of its having some twenty-odd stories.

We have now reached the top of a flight of steps descending into Giants' Hall proper. With the help of two electric lights we enjoy a magnificent view of a chasm which, lofty and wide, and flanked with massive formations of every kind, is beset with gigantic blocks of limestone fallen from the ceiling, and crowded with stalagmites which tower above our heads. Everything is of gigantic proportions. Folds of stone drapery, called The Chimes, forty feet long, vibrate for many minutes to the light touch of the guide. On our immediate right is Empress Column, a stalagmite rich in flutings and dark about its lower part, but growing white as it rises until its summit is clothed with indescribable beauty. It is *perfectly* white—luminous, one would say. Nothing could be better taken as the type of absolute purity.

The Sultana Column, near by on the left, is of symmetrical shape but discolored by age. An adjacent column suggests an Indian Squaw, and another Chanticleer. A rugged mass of stone further on, exhibiting a "gaudy leonine beauty," is the Lion of Luray. Winding our way through a labyrinth of spires, minarets, formations infinite in number and kind, we come at length to the base of the Double Column\*—two huge brown masses, the one a stalactite hanging about fifty feet from the ceiling to within a few feet of the floor; the other a stalagmite rising by its side nearly as far: both of immense size and symmetrical in shape. Within a few feet are a number of sonorous draperies

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\*Recently†dedicated, by the Reading Society of Natural Sciences, under the name "Henry-Baird Column," to the late Prof. Joseph Henry, the first Secretary, and Prof. Spencer F. Baird, the present Secretary of the Smithsonian Institution at Washington.



THE ANGELS HARP (Cathedral).

of great length. These when gently struck by the guide with his finger give out notes of charming sweetness :

“ Like an Aeolian harp that wakes  
No certain air, but overtakes  
Far thought with music that it makes.”

Proceeding along the plank walk through the Narrow Passage, we have on our right the Frozen Cascade, succeeded further on by the Chalcedony Cascade. Opposite the latter upon the left is Mahomet's Coffin, an immense boulder of limestone suspended in mid-air.

THE BALL ROOM.—We emerge at length into a large open space, nearly circular and magnificently furnished with all that is striking and attractive in cave scenery. Its size and shape justify the name which has been given it. It is floored with plank and provided with benches. A bank of stone on one side supplies a support for successive ranges of seats. Formerly on “Illumination Days,” when some 5,000 candles were lighted throughout the Cave, the lads and lasses of the adjacent counties celebrated the event by assembling here for a dance. The Luray Band with their instruments provided the necessary music. As may be imagined, the effect was both striking and queer. The brilliant lights set off the Ball Room to its best advantage, and the music echoed loudly back and forth through Giants' Hall. This apartment, the lowest in the cave, is 260 feet beneath the surface.

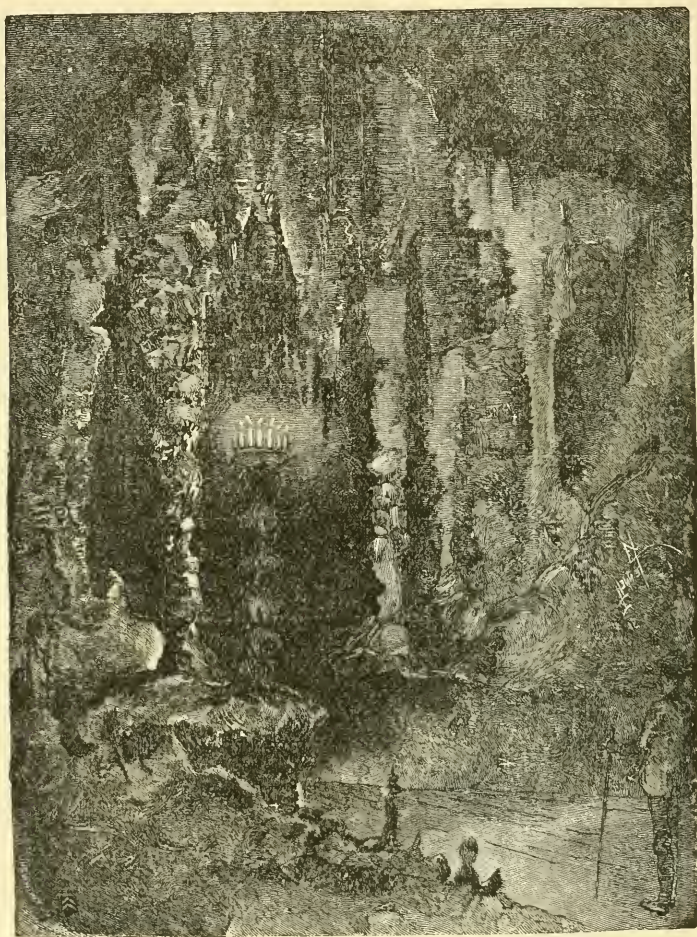
The objects of interest here are the Tombs of the Martyrs, the Vault, the Lady's Riding Whip, the Idol, the Conical Shot, and the fair maiden Cinderella. Two sets of rooms adjoin. The one contains the much admired Cascade Spring, a series of pools in tiers, the lower ones formed and fed by the outflow of those above, and all lined with calcite crystals. Prettily colored and sonorous draperies of great length hang near by. Another set of rooms, including Collins' Grotto,\* is reached by mounting

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\* Named after Jerome J. Collins, one of the officers of the Jeannette, who spent ten days exploring the cave.



stairs opposite the entrance to the Ball Room. Collins' Grotto is rich in formations of rare and curious shapes, among which the Dragon is specially interesting. An attraction connected



CORNER OF BALL ROOM.

with it is the Snowball Spring. On our return from the Grotto we stop to examine the Bird's Nest, a cavity in the rock containing three beautiful white eggs—cave-pearls—formed





ANDREW J. CAMPBELL.\*

and forming from drops of lime-laden water falling from the ceiling. Opposite to Cascade Spring is an opening leading up to Pluto's Chasm.

CAMPBELL'S HALL.—Returning to the entrance to the Ball Room, we plunge into a dark ravine upon the right and mounting two long flights of steps find ourselves on the second story of the Cave, and at the opening into Campbell's Hall. It is an apartment of irregular shape, about 150 feet in diameter and thirty-five feet high, remarkable for the variety of color, and fine state of preservation of its formations. Some are of pearly whiteness, others are red, bright yellow, gray, bluish and jetty black. It is worthy of remark that the Cascade Spring derives its waters from this place.

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\*The first person to enter the Cave. He and his nephew, William B. Campbell, attend the visitor as guides.

Specially to be noted is the Fountain in Tiers. Imagine upon the summit of a bank of stone a large shallow basin filled with pellucid water. Its outflow is received into six other smaller basins arranged in graceful curves along the slope below. The sides and bottoms of all are covered with calcite crystals of an amber color. In the larger basin stands a brown column, three feet high, whose base is beautifully broadened with a wreath of crystals as far up as the water reaches. The Scale Column, or Mermaid, is sheathed in crystals resembling scales. Campbell's Hall answers to our highest conception of the ornamental in cave scenery, since here to a remarkable degree the formations retain their original beauty.

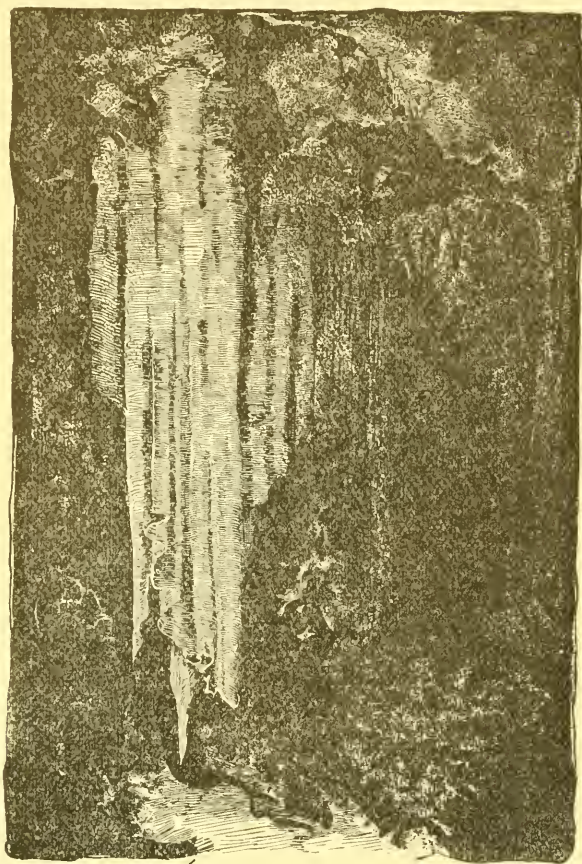
On making our exit we discover over our heads two folds of stonycloth, of light color, translucent and striped finely with opaque bands of snowy whiteness—the prettiest in the cave.

THE RETURN.—We make our way back to the Double Column, and thence, turning to the left, up a flight of steps into the Hall of Eblis, a wide apartment having vistas opening out in many directions. Here are the Comet Column, the Camel's Head, the Handkerchief, and the Wet Blanket. Here, too, is the former Bridal Chamber, which has been consecrated by an actual marriage. The Hollow Column not far distant, is a huge stalactite through the axis of which a streamlet of fresh surface water has eaten its way from end to end, opening up a shaft by which we may ascend forty feet into a gallery over the rooms we have been exploring.

Proserpine's Column is now our objective point. But before we go we find our way to the platform beneath the electric light to get another view of the Empress Column. It is truly superb, and its name is but in keeping with its air of imperial loveliness.

We have seen enough for one day. We are exhausted mentally by the multitude of our new impressions, and by the lively emotions to which they have given rise. Deferring the wonders yet remaining to another time we hurry back towards Entrance Hall, and mounting the stairway into the purplish light of day realize at length that we have enormous appetites and are perhaps

a trifle tired by hours of cave travel. We bethink us of the gastronomic resources of the Luray Inn.\*



WET BLANKET.

From the door of the Cave House a fine view of the beautiful Luray Valley is obtained. Fronting us towards the east is the Blue Ridge, blue as the heavens, with its various out-lying spurs, one of which partly conceals Thornton's Gap. On the right in

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\*Kept by Geo. K. Mullin of the St. Cloud Hotel, Philadelphia.

charming profile the same mountain curves towards us, folding in its embrace the hills and dales, broad meadows, orchards and fertile fields of the upper Hawk's Bill. Mary's Rock is a famous land-mark, in full view. On our left, toward Front Royal, the azure-tinted peaks of the Massanutton are seen to approach the line of the Blue Ridge. Famous for many bloody combats during the war, the scene is now, however, one of peace, and recalls the Laureate's vision—

The island valley of Avilion ;  
Where falls not hail, or rain, or any snow,  
Nor ever wind blows loudly ; but it lies  
Deep-meadowed, happy, fair with orchard lawns,  
And bowery hollows crown'd with summer sea.

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## OTHER PARTS OF THE CAVE.

“ Silence is vocal if we listen well.”

Large areas, embracing some of the finest parts of the cave, are not yet opened to the public. The route described in my last chapter takes in those localities which were first made easy of access to the general visitor. There remain for the undaunted explorer certain regions for which special preparation is necessary: miles\* of clambering up the sides of chasms, along slippery ledges, swinging from pillar to pillar at great risk of losing one's hold on treacherous stalagmites—to give a name to some as yet unchristened gulch ; ridges to straddle with yawning gulfs on either side, and embarrassing sharp-pointed stalactites over-head ; descents to be made, with labor and peril, by the help of decaying draperies, to reach floors deep with “ boot-jack mud,” or forming, perhaps, a thin crust over some bottomless pit ; crawling to be done through passages too small for one's person, in mingled mud and water,—such are the toils of

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\*To visit all the rooms now open in the cave requires a journey of over three miles. The entire extent is reckoned at something less than five miles.





WILLIAM B. CAMPBELL.

the explorer. He is beguiled to his task, however, by the novel beauties and terrors which present themselves at every turn. A pleasant excitement takes possession of him, and labor and lapse of time are forgotten.

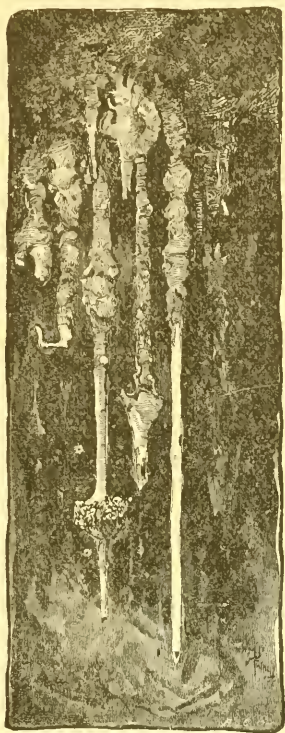
Three routes requiring several hours each remain :—STEBBINS' AVENUE, STONEWALL AVENUE, and to the ROUND ROOM, or EREBUS.

STEBBINS' AVENUE.—Turning to the left from the Entrance Hall, we enter Stebbins' Avenue so called from the name of one of the gentlemen to whom the discovery of the cave is due. It is a series of spaces of low pitch and irregular shape opening one into another ; all with floors more or less dry because the water passes away by the lower level of the rooms which are found to exist beneath. The avenue presently divides into two, of which the right one leads to Crystal Lake, the left to Pisa and the rooms beyond.

We recognize first the banded stalagmite called Pyramid of Cakes. It is surmounted by the Pine Apple. Near by is a bank of stone having a variety of colors, but most remarkable for a jetty black, supposed to be due to manganese dioxide. Near this is the Chinese Idol on its pedestal of stone. This part of our way rings beneath our tread with a hollow sound, and the guide removes a slab which conceals the entrance to a region beneath known as Tartarus.

The Blacksmith's Shop with its fire-place and two stalagmitic anvils comes next. In an adjoining room is the Cannon Ball, a 24-pounder resting at the bottom of a limpid pool. Further on is the Grape Spring encompassed with grapes, or botryoids, of all shades from black to white, small and pretty. A mossy growth of calcite lines the bottom of the Spring. Upon the right we enter a recently discovered room 150 feet long, 50 feet broad, and 12 feet high. It is called Dr. Hawes' Room, in honor of Dr. Geo. W. Hawes, of the National Museum at Washington. Crystal Lake is forty feet long by eight deep. We shall not venture on the narrow plank upon which the guide would tempt us to cross. We turn back, and near the Cannon Ball enter the narrow opening leading to Pisa. After crawling on our hands and knees for some distance we reach a large open space, the bottom of which is the bed of a lake. Its level is sunken about five feet—its bottom having fallen out, so to speak. Its sinking seems to have been expedited by the weight of an immense fluted stalactite some twenty-five feet high by twelve in diameter, which has broken from the ceiling, crushed the floor, and brought down with it many of the adjacent columns. It is a veritable Leaning Tower. Beyond are Jacob's Well and the curious Bayonet Well, which have for their bottom the new level to which the Leaning Tower has fallen. The Bayonet is a perpendicular strip of drapery rising from the edge of the Well, having been left behind at the sinking of the stalagmite to which it was attached. There are many fine rooms in this quarter. The locality is specially rich in helictites, the curious lateral and upward growths alluded to before. They

writhe upon the surface of their support like worms, in complicated clusters, perfectly regardless of the law of gravitation.



STONEWALL AVENUE is a continuation of Entrance Avenue. Starting from the Skeleton we mount a stairway and upon the higher level find upon our left a room called Paradise, containing a pavilion ornamented with delicate lattice work of snow-white stone. It is called the Gnome's Pavilion. Further on upon the right we enter a passage conducting us into an apartment which from its connecting with the Imperial Spring is known as the Empress' Chamber. The splendid view under the electric light from this room across the Imperial Spring with its myriad of encompassing columns, and beyond to the rugged features of Stonewall Avenue, must not be missed. Returning to the main route, we rest for a moment to inspect the trailing tufts of a white, furry fungus of great beauty, hanging here, as elsewhere in the cave,

STALACTITES & HELICTITES, from the plank of which the stairways and platforms are constructed. It doubtless belongs to the upper world, being brought in with the plank, but as it seems to find here the environment most favorable to its growth it should be christened Cave Ermine. At a distance its pendent masses are scarcely to be distinguished from stalactites.

Continuing our explorations we come next to the Twins, three lakes of considerable depth encompassed by a wild forest of columnar stone. The clustering together of many stalactitic pillars forcibly recalls the multiplex columns of which the mediæval artist was so fond, making it easy to believe that the Gothic

architect derived his idea from the growths of caves rather than those of the forest.

Beyond the lakes turning off to the right we pass beneath the Canopy, a circular rock jutting from the wall; bare as to its flat under surface, but ornamented about its circumference with a fringe of drapery. Going further we enter the Engine Room, containing the Locomotive and curious helictites of unusual size resembling potatoes. The formations here are of a strikingly eccentric character. Turning back to the main route we continue for some distance until we reach the point at which the guide tells us it is proposed to open a new exit from the cave to the outer world. Near Dr. Miller's Room\* we find large masses of calcite broken away with dynamite cartridges in an effort to create a wider opening. Some of the huge blocks thus dislodged are remarkable for fineness of texture. "On being cut into slabs and polished, they are quite equal to the celebrated Mexican onyx, from which they differ mainly in vividness of color." Last of all we reach the entrance of a large dome-shaped apartment to which the appropriate name of Chaos has been given.

EREBUS.—Clambering over a huge pile of ruins in Giants' Hall, and mounting to a considerable height by means of a ladder, we enter upon the route to Erebus. On our way we find many curious formations to admire. Among these may be mentioned The Toys, a cluster of upward and lateral helictitic growths gathered about the capital of a stalactitic column. Turning about we find the way from this point to Erebus arduous and difficult. It grows smaller and smaller until we must needs creep, at full length, some twenty feet through a narrow, wet, and muddy passage, which is but a crack in the blue limestone. It is impossible to avoid the stalactites besetting the way, and the dripping water fills the eyes with the tears appropriate to so uncomfortable a situation. Our clothing is reduced to a miserable plight.

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\*Named after the late Dr. Miller of Luray, a great admirer of the Cave.



We are rewarded upon our emergence into Crystal Room by the discovery of numerous hexagonal crystals transparent, of large size, and beautiful. They project from the ceiling, in clusters commonly, and are found only where the ceiling is the original blue limestone, within which, in cavities, they seem to have been formed at some remote period. They are two, three and four inches in length, and from one to twelve-sixteenths of an inch in thickness.

We rest at last in Erebus, a room large, dark and dismal, having the shape of the figure 8. At the point corresponding with the middle of the figure, a large and symmetrical column of brownish-white stone rises from floor to ceiling, a distance of about seventy feet. It is the only column of any size in the room. Along the side runs a sort of gallery containing fine specimens illustrating the processes of "vegetal growth." Entering this gallery we find it filled with decaying forms, and peering thence into the central abyss—

The dank tarn of Auber  
The ghoul-haunted woodland of Weir

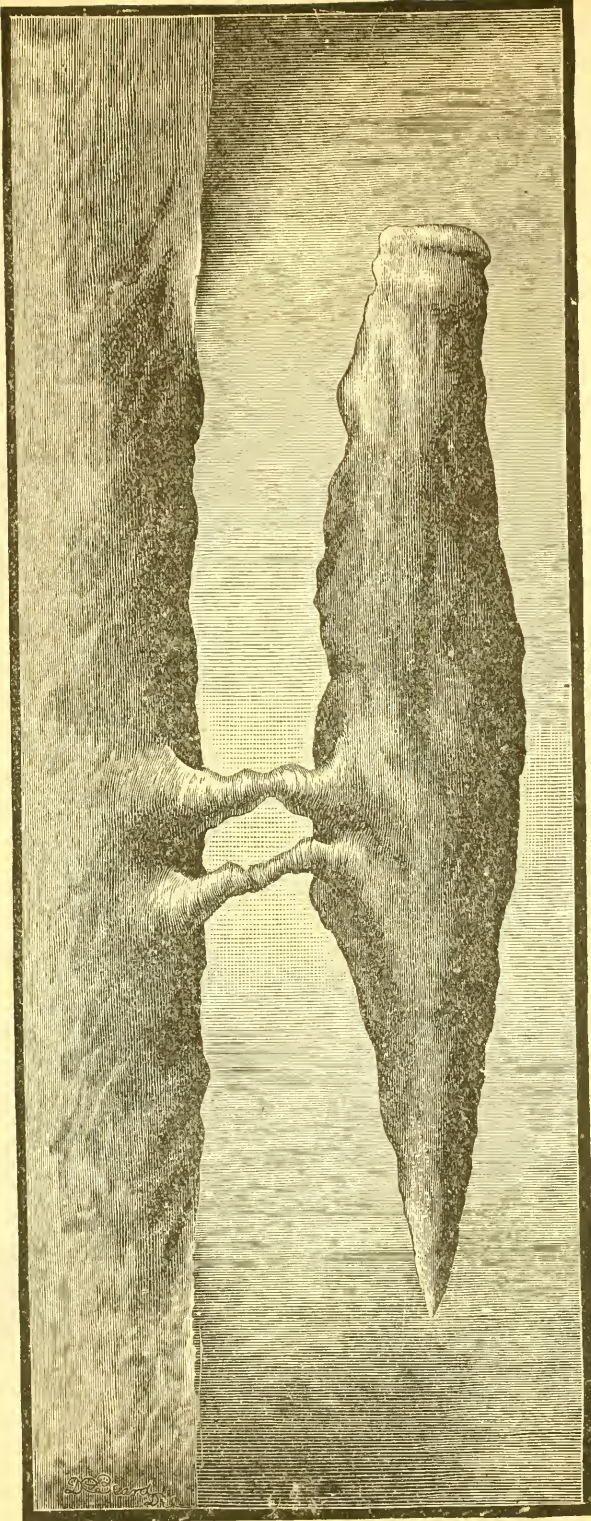
of Poe's fancy—we see lying there many objects whose shape is undistinguishable in the darkness.

## CONCLUSION.

It is a task of recognized difficulty to describe the indescribable. This difficulty is enhanced, if possible, in the case of cave scenery by the fact that the impressions it leaves upon the mind of the beholder differ not so much in degree as in kind from those of his past experience. A new order of sensations, ideas and emotions demands, of course, a new vocabulary. No straining or expansion of a terminology derived from the upper world will enable it to describe adequately the wonderful phenomena presented in the realm of Stalacta. The visitor who attempts description must content himself therefore with seeking

to impart his enthusiasm, without hoping to trace fully its causes. This only will he profess to understand clearly—that he has enjoyed the rare felicity of experiencing an altogether novel sensation.

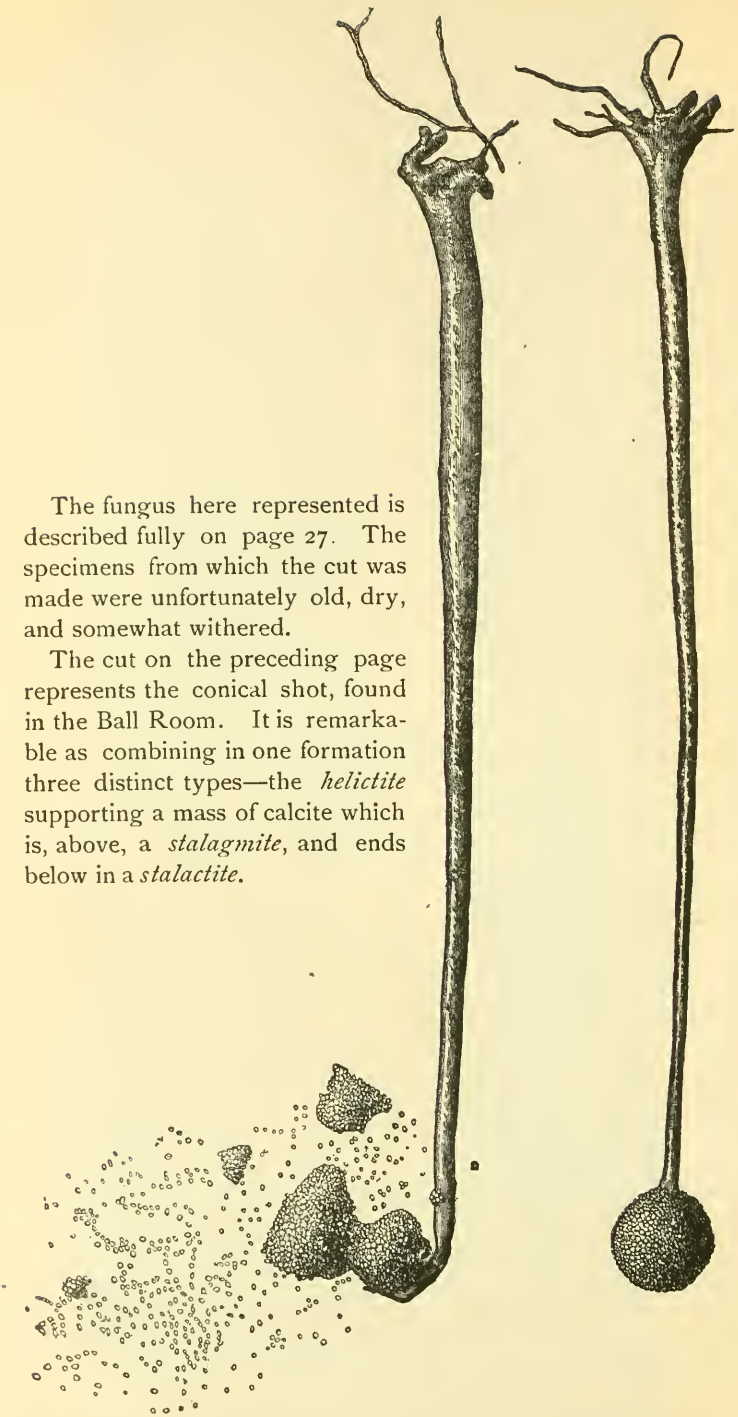
The Persian monarch's desire—a new pleasure—is secured at length to the world in the Luray Cave.



CURIOUS STALACTITE GROWTH.

The fungus here represented is described fully on page 27. The specimens from which the cut was made were unfortunately old, dry, and somewhat withered.

The cut on the preceding page represents the conical shot, found in the Ball Room. It is remarkable as combining in one formation three distinct types—the *helictite* supporting a mass of calcite which is, above, a *stalagmite*, and ends below in a *stalactite*.



MUCOR STALACTITIS.—FROM LURAY CAVE



## VERDICTS OF CRITICS.

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"LURAY Caverns may be safely counted among the chief wonders of the world."  
—*Scientific American*.

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"THE wonders and beauty of the Luray Cave have not been exaggerated.  
\* \* As an object of interest, it ranks to Niagara Falls and is destined to almost equal popularity.—*The Washington (D. C.) Post*.

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"THE whole is a mass of georgeous splendor, with probably no equal in America, if in the world."—*New York Herald*.

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"THE *Philadelphia Inquirer* speaks of "folds of lovely drapery ornamented with tracery like fine lace-work and hung with edgings of heavy silver bullion."

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"Nothing so vast, so varied, so magnificent, exists in any other cavern known to man."—*Harper's Weekly*.

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### LETTER FROM "PORTE CRAYON."

Charlestown, Jefferson County, West Virginia. }  
November 21st, 1881. }

My Dear Sir :

In my earlier days I explored a number of notable caverns, including the "Mammoth Cave" in Kentucky, and "Weyers" in Virginia, and have since that time confined my observations to views above ground, under the belief that nature had no more subterranean surprises nor enchantments in store for me.

I must confess, however, that my recent visit to the cave at Luray has been a new revelation, surpassing as that does all I had previously seen, in the richness and profusion of its ornamentation and its weird and dramatic effects, especially when illuminated by the electric lights recently introduced.

These effects are beyond the reach of descriptive art, and must be seen to be fully understood and appreciated.

I am very truly yours,  
(Signed) DAVID H STROTHER.

---

AN Architect might get an inspiration from the arches and domes and columns which nature so lavishly displays in this subterranean palace.—*Journal and Courier*, New Haven, Conn.

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THE *New York Times*, speaking of the introduction of the electric light into the caverns says, "The effect is grand beyond description, the brilliancy of the light being greatly increased by the reflections from the crystallized formations and the depth of the lakes."

FORNEY's Progress thinks "no comparison need be entered upon as between the Mammoth Cave and these perfected grottoes,—Luray's are incomparably superior in all that goes to make brilliancy, beauty, and splendor."

---

THE *Baltimore Sun*, says of the Empress Column. Its glittering head rises thirty feet above us, and its cream tinted surface dashed with the painted suspicion of pink, is covered with delicate lace-like tracery deftly carved by Nature's hand—seen in some lights the body of the column appears to be of a delicate rose tint faintly gleaming through sheeny folds of creamy lace.

---

BISHOP Keane of Virginia, writes: "Whoever has not visited such a cavern remains in ignorance of one of the most beautiful departments of Nature's wonders; and whoever has not examined this wild handiwork of Nature, with the aid of the electric light, has but half an idea of its real magnificence and beauty."

---

THE infinite inventiveness of chance.—*Afield and Afloat*.

---

IN striving to give a glimpse of this fairy haunted realms, exaggeration seems impossible, and cave description would bemean the subject.—*National Republic*, Washington, D. C.

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THE *Philadelphia Ledger* thinks "in the matter of variety as well as beauty, the Luray Cave can hardly be excelled. \* \* Although smaller than the Mammoth Cave, Luray is pronounced by men who have seen both more interesting and beautiful."

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"THE grandest of American caverns."—*Frank Leslie's Illustrated Weekly*.

---

Extract from a letter from the Secretary of the American Institute of Mining Engineers, after a visit of over one hundred of the members to the cave.

"I may safely say that never in the history of the Institute have we ever had an experience that can compare with our visit to Luray Cave.

Accustomed as we are by profession to a subterranean life, we were nevertheless unprepared to find such a "mine" of beauty as your cave disclosed."

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The Fish Market is one of the most natural and unique sights in the cavern. The illusion is so absolutely perfect that one almost expects them to "flop" and wriggle about if touched.

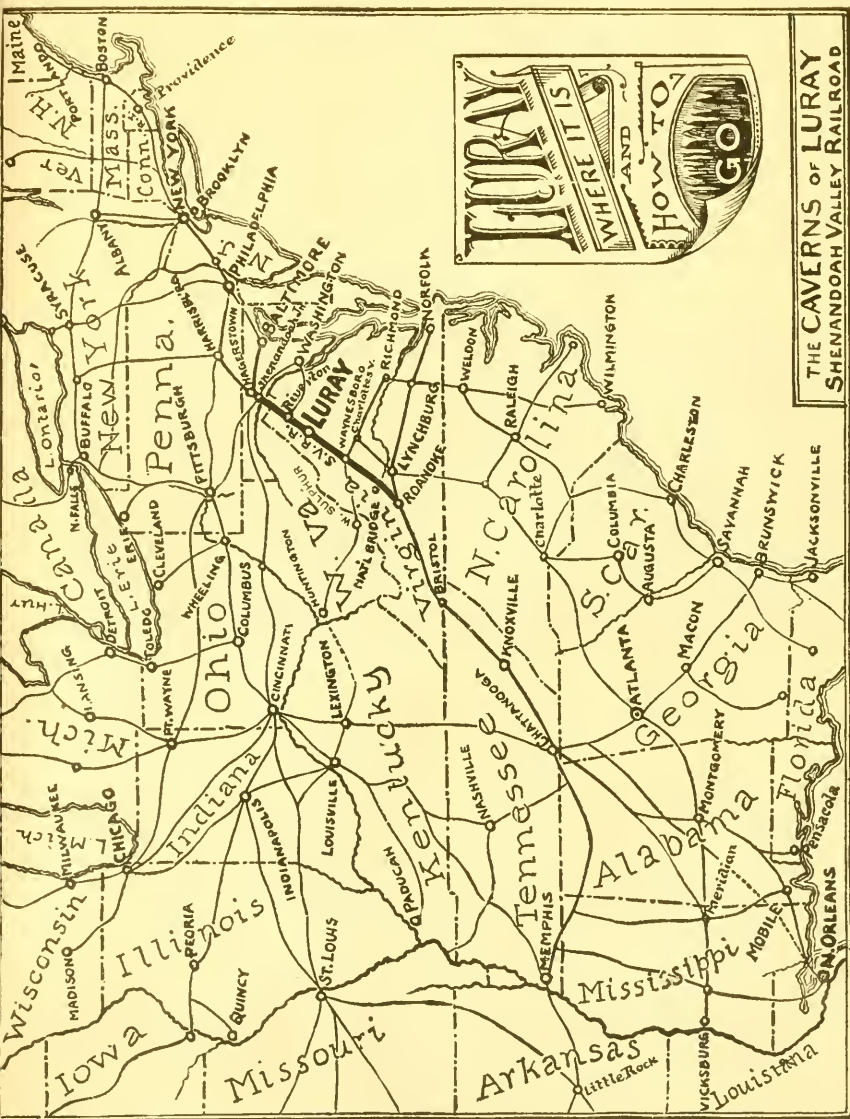
No other cave in this country possesses such diversified features, and it can only be compared with the celebrated grotto of Adelsberg in Carniola.—*The Evening Star*, Washington, D. C.

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THE *Philadelphia Times* says, "to see Luray Cave once is to want to see it again. The journey is so delightful, so speedy and so inexpensive that everybody who has a taste for the enjoyment of the wonderful and the magnificent ought to make the most of the opportunity offered."

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LURAY Cave does not boast of the size of the Mammoth Cave of Kentucky. But if not so large, it is decidedly more full of variety and novelty. At every turn we were taken by surprise with things which we had not expected to see.—*Christian Observer*, Louisville, Ky.



From Philadelphia take Pennsylvania Railroad.

From Washington take Baltimore and Ohio Railroad

From Cincinnati take C. & O. or B. & O. Railroads.

From Baltimore take Western Maryland Railroad.

From Richmond take Chesapeake and Ohio Railroad.

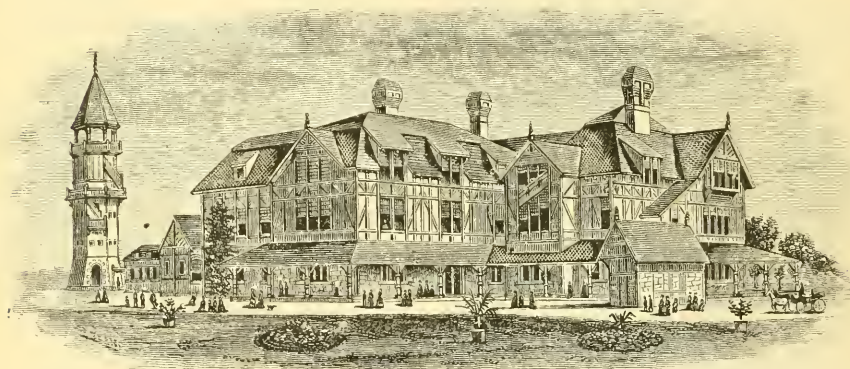
May 1st, Season of 1882.

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Table supplied with the best from Eastern markets.



Excellent meals and lunches are served at the Excursion House Restaurant close to the Shenandoah Valley Railroad Depot.

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ALL TRAINS STOP AT LURAY FOR MEALS.

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Please notify train conductors of meals desired or of intention to visit the Caverns.

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Passengers are requested to report any incivility on part of employees.

**GEO. K. MULLIN,**

(of St. Cloud Hotel, Philadelphia.)

Proprietor.



# **SHENANDOAH VALLEY RAILROAD.**

THE ONLY ROUTE

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These marvellous Caverns are near the town of Luray,

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Passengers via the Shenandoah Valley R. R. bound for the Caverns of Luray or going North or South over the road are allowed to

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